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## ABSTRACT

5 The present invention relates to a method for illuminating the viruses in a  
circulatory blood, comprising the following steps of: 1) Adding an anticoagulant  
into a whole blood source and establishing a circulation system for the whole  
blood source; 2) Withdrawing the whole blood with the anticoagulant into a  
plasma-separating device for a separation, when finished, directly pumping the  
red-blood cells back into the whole blood source and transporting the plasma into  
a mixing transport pump after the separation; 3) Meanwhile, pumping a  
10 photosensitizer methylene blue into the mixing transport pump so that the  
methylene blue is mixed with the plasma and pumped together into a plasma  
container; 4) Using an illumination device to illuminate the plasma in the plasma  
container for virus illumination, and pumping the virus-illuminated plasma into a  
removing device for removing off the photosensitizer; 5) The methylene blue  
15 being absorbed by the removing device and the plasma illuminated being  
transfused back into the whole blood system; 6) Repeating the step 2 to the step 5  
until the virus content in the whole blood source is reduced by 99.99%. The  
present invention can process blood in a batch, as a pipeline, and can utilize  
aseptic and disposable sealed systems isolated from the outside environment for  
20 processing. The processed plasma flows back into the whole blood source and can  
be directly transfused into the human body. Still, the invention may be further  
used to treat virus-diseases such as Hepatitis B, Hepatitis C, AIDS and etc., and to  
eliminate the viruses of organ transplantation recipient.